

REMARKS

Claims 1-6 stand rejected under 35 USC §103(a) as unpatentable over Quigley (U.S. 6,575,279) in view of Fitz (U.S. 5,806,643). Quigley is cited as disclosing a no-back device comprising a plurality of ratchet members (22) connectable to a rotating member, pawls (25), interlocking means (40), projections and indentations (40,41 in Fig. 3).

The Examiner acknowledges that Quigley does not teach using materials of different specifications. However, Fitz is cited as disclosing a conventional one-way drive using members made from different materials (reference being made to the Abstract). The Examiner finds that it would have been obvious to a person of ordinary skill in the art to use different materials for the components of the no-back device of Quigley in view of Fitz to compensate for the material deficiencies of one or the other, thereby reducing the likelihood of failure.

Claims 1-6 have been cancelled, as have pending claims 7-21. The foregoing rejection is respectfully traversed and reconsideration is requested in view of new independent claim 22 and the comments which follow.

Fitz discloses a one-way drive arrangement having a drive member and a driven member made of different materials. For example, the drive member may be of plastic or aluminum, while the driven member may be of steel powder metal. The Examiner has equated these drive and driven components to the first and second ratchet members of the present invention. It is respectfully submitted that this interpretation is incorrect. The ratchet members of the no-back device of the present invention both perform effectively the same function, thus one cannot be equated to the drive member of Fitz and the other equated to the driven member of Fitz. In addition, in the Fitz device, if either one of the drive and driven members were to fail, the entire device would fail. Fitz does not achieve the redundancy objective of the present invention and, therefore, does not provide the teaching or suggestion to one skilled in the art to combine it with Quigley.

In addition, in new independent claim 22, the inventors have focused more specifically on the preferred embodiment of the invention by specifically reciting materials for the first and second ratchet members comprising “different grades of a base material”. In new dependent claim 23, the preferred base material as steel is recited.

New claims 22 and 23 distinguish even further from the teachings of Quigley and Fitz. Quigley does not describe or suggest using different grades or specifications of the **same** material in the formation of the various laminations. Instead, Quigley describes forming the individual laminations using a stamping process to stamp many laminations from the same sheet of material. Fitz teaches the use of entirely different materials, not different grades or specifications of the same material.

Claims 7 and 8 stand rejected under 35 USC §103(a) as unpatentable over the combination of Quigley and Fitz and further in view of Chiang et al (U.S. 5,921,363). Chiang is cited for its disclosure of a freewheel device comprising ratchet members of different sizes and offset from one another, the Examiner applying the teaching of Chiang to the Quigley/Fitz combination to prolong the life of the clutch.

Claims 8-11 (it is believed the Examiner intended to recite claims 9-11) stand rejected under 35 USC 103(a) as unpatentable over the combination of Quigley and Fitz and further in view of Yoshiie et al (U.S. 6,889,809). Yoshiie is cited for its disclosure of a one-way clutch having a strain gauge (80) for controlling the device by means of a controller/switch (14); the Examiner finding that it would have been obvious to a person skilled in the art to use the sensing/switch means of Yoshiie in the device of Quigley/Fitz to accurately monitor and control the parameters of the device.

Claims 12-16 stand rejected under 35 USC §103(a) as unpatentable over Quigley in view of Kostin et al (U.S. 6,338,403). Kostin is applied for its disclosure of a conventional one-way drive using members treated by different treatment methods (e.g. coatings as discussed in column 11, lines 41-49). The Examiner finds it would have been obvious to one skilled in the art to use different materials for the components of the no-back device of Quigley in view of Kostin to compensate for the material deficiencies of another.

Claims 17-18 stand rejected under 35 USC §103(a) as unpatentable over the combination of Quigley and Kostin and further in view of Chiang et al. Chiang is cited for disclosing a ratchet device with ratchet members of different sizes and offset from one another, the Examiner finding that it would have been obvious to one skilled in the art to apply the teaching of Chiang to the Quigley/Kostin device to prolong the life of the clutch.

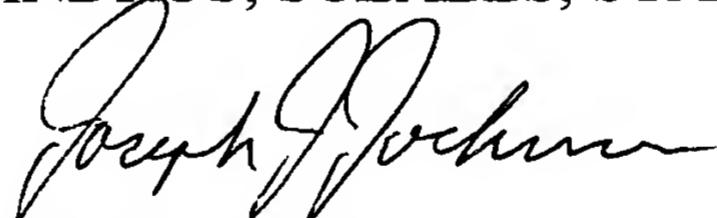
Claims 19-21 stand rejected under 35 USC §103(a) as unpatentable over Quigley/Kostin and further in view of Yoshiie. Yoshiie is cited for disclosing a one-way clutch having a strain gauge (80) for controlling the device by means of a controller/switch (14). The Examiner finds it would have been obvious to use the sensing/switch means of Yoshiie in the device of Quigley/Kostin to accurately monitor and control the parameters of the device.

The foregoing rejections of claims 7-21 are all respectfully traversed in view of their dependency, directly or indirectly, from new claims 1 or 2, both of which are believed to be allowable for the reasons set forth above.

New claims 22-35 are, therefore, believed to be allowable and further favorable action is respectfully requested.

Respectfully submitted,

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